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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PILLSBURY WINTHROP, LLP			PEREZ GUTIERREZ, RAFAEL	
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MCLEAN, VA 22102			PAPER NUMBER	
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DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,953

Applicant(s)

Juuti et al.

Examiner

Rafael Perez-Gutierrez

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement submitted on October 24, 2001 has been considered by the Examiner and made of record in the application file.

Specification

3. The disclosure is objected to because of the following informalities:
 - a) On **page 2 line 31**, replace "cell, , to" with --cell, to--;
 - b) On **page 3 line 5**, replace "subscriber's" with --subscriber's--;
 - c) On **page 6 line 26**, replace "whetherthe" with --whether the--;
 - d) On **page 6 line 30** and on **page 7 line 14**, replace "obtainsthe" with --obtains the--;
 - e) On **page 6 line 33**, on **page 7 line 17**, and on **page 8 line 9**, replace "acceptsthe" with -accepts the--;
 - f) On **page 6 line 34**, replace "206" with --205-- since the match is determined in step 205;

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g) On **page 7 line 18**, replace “306” with --305-- since the match is determined in step 305;

h) On **page 7 line 18**, replace “rejectsthe” with --rejects the--;

i) On **page 8 line 10**, replace “406” with --405-- since the match is determined in step 405;

j) On **page 9 line 26**, replace “accoriding” with --according--;

k) On **page 9 line 28**, replace “addsthe” with --adds the--;

l) On **page 9 line 30**, replace “triesto” with --tries to--;

m) On **page 9 line 31**, replace “campsin” with --camps in--;

n) On **page 9 line 32**, replace “entersa” with --enters a--; and

o) On **page 9 line 33**, replace “508 ,” with --508,--.

Appropriate correction is required.

Preliminary Amendment

4. The present Office Action is based upon the original patent application filed on October 24, 2001 as modified by the preliminary amendment filed also on October 24, 2001. **Claims 1-20** are now pending in the present application.

Claim Objections

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5. **Claims 1, 2, 6, 9, 10, 12, and 19** are objected to because of the following informalities:

- a) On **line 11** of **claim 1**, insert --the-- before “location”;
- b) On **line 2** of **claim 2**, replace “the” with --a-- after “in” in order to provide proper antecedent basis for “network element”;
- c) On **line 6** of **claim 6**, replace “information ;” with --information;--;
- d) On **line 2** of **claim 9**, replace “”roaming” with --“roaming--;
- e) On **line 7** of **claim 10**, replace “an” with --a-- before “location”;
- f) On **line 10** of **claim 10**, replace “broadcast ;” with --broadcast;--;
- g) On **line 9** of **claim 12**, delete “an” after “comprising”; and
- h) On **line 8** of **claim 19**, replace “network” with --system-- in order to provide proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless -- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-7, 12, 14, and 16-18 are rejected under 35 U.S.C. 102(a) as being anticipated by **Salmela et al. (WO 98/30056)**.

Consider **claim 1**, Salmela et al. clearly show and disclose a method for restricting

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connection of a mobile station MS to a cell (deciding whether a mobile station used by a subscriber is allowed to camp in a cell) of a mobile communication network (system) comprising location areas (LAs) (abstract, figure 1, page 1 lines 4-6, page 4 lines 9-12, and page 14 lines 22-25), the method comprising the steps of:

defining localized (exclusive) service areas (LSAs) LSA1-LSA3 comprising special (exclusive) cells (C1-C3, C5, C11) (figure 1, page 4 lines 1-12, page 5 lines 14-18, and page 7 lines 26-28);

receiving, via a cell, a request for location update which initiates a location update procedure for updating the subscriber's location to a new location area (i.e., location area identifier/index (LAI)) (figures 2-5 message 21, page 2 lines 9-17, page 2 line 35 - page 3 line 2, page 4 lines 23 and 24, page 4 line 31 - page 5 line 9, page 8 lines 13-16, page 9 lines 19-23, page 10 lines 25-29, page 11 lines 19-23, and page 14 lines 21-25);

checking during the location update procedure whether the new location area (i.e., location area identifier/index (LAI)) is a localized (exclusive) service area (LSA) LSA1-LSA3 (page 5 lines 6-9, page 6 lines 12-19, page 8 lines 17-25, page 11 lines 23-26, page 12 lines 10-19, page 14 lines 26-31, and page 15 lines 14-24); and

if the new location area (i.e., location area index (LAI)) is a localized (exclusive) service area (LSA) LSA1-LSA3 (page 12 line 28 - page 13 line 5, page 14 lines 28-31, and page 15 lines 14-24):

determining whether or not the subscriber is allowed to connect (camp) in the cell (page 14 lines 14-18, page 14 line 28 - page 15 line 3, and page 15 lines 14-24);

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allowing the mobile station to connect (camp) in the cell by accepting the location update if the subscriber is allowed to connect (camp) in the cell (page 13 lines 1-5, page 14 lines 14-18, page 14 line 35 - page 15 line 1, and page 15 lines 14-24); and

restricting (preventing) the mobile station from connecting (camping) in the cell by rejecting the location update if the subscriber is not allowed to connect (camp) in the cell (page 13 lines 1-5, page 14 lines 14-18 and 21-35, and page 15 lines 1-34).

Consider **claim 2**, and **as applied to claim 1 above**, Salmela et al. further disclose the step of maintaining information about localized (exclusive) service areas (LSAs) LSA1-LSA3 in a database (network element) of an intelligent network rejecting or accepting location updates (page 4 lines 18-22, page 5 lines 19-27, page 14 line 26 - page 15 line 4 and page 15 line 34 - page 16 line 1).

Consider **claim 3**, and **as applied to claim 2 above**, Salmela et al. also disclose the steps of:

maintaining information about localized (exclusive) service areas (LSAs) LSA1-LSA3 comprising special (exclusive) cells (C1-C3, C5, C11) (figure 1) by maintaining information indicating whether the cell (C1-C3, C5, C11) is a special (exclusive) cell (page 4 lines 18-22, page 5 lines 19-27, page 8 lines 14-30, page 11 lines 20-35, page 12 line 20 - page 13 line 5, page 13 lines 18-26, page 14 lines 28-35, and page 15 lines 26-33); and

using cell information for deciding whether the location area is a localized (exclusive) service area (LSAs) LSA1-LSA3 (page 8 lines 14-30, page 11 lines 20-35, page 12 line 20 - page 13 line 5, page 13 lines 18-26, page 14 lines 28-35, and page 15 lines 26-33).

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Consider **claim 4**, and **as applied to claim 1 above**, Salmela et al. further disclose the steps of:

receiving an indication (e.g., message 32 transmitted from the intelligent network to the visitor location register (VLR)) indicating whether the cell is a special (exclusive) cell during location update (figures 3A, 3B, and 4B, page 8 lines 20-30, page 9 lines 26-30, page 11 lines 11-18, and page 11 lines 23-35); and

deciding on the basis of the indication (e.g., by looking at optional field 11 included in the list of special (exclusive) cells 10) whether the location area of the cell is a localized (exclusive) service area (LSAs) LSA1-LSA3 (figures 1 and 5, page 5 lines 19-27, page 12 line 20 - page 13 line 5, and page 14 line 22 - page 15 line 33).

Consider **claim 5**, and **as applied to claim 1 above**, Salmela et al. also disclose wherein the mobile communication network (system) comprises localized (exclusive) service areas (LSAs) LSA1-LSA3 (figure 1, page 4 lines 1-12, and page 7 lines 26-28);

the special (exclusive) cells (C1-C3, C5, C11) being special (exclusive) access cells (i.e., only certain subscribers can connect to those cells) (page 4 lines 1-15, page 5 lines 18-27, page 8 lines 6-9, and page 14 line 14 - page 15 line 33); and

the fact whether or not the subscriber is allowed to connect (camp) in the cell is determined by comparing the localized (exclusive) service area (LSA) LSA1-LSA3 information to the subscriber's localized (exclusive) service area (LSAs) LSA1-LSA3 (page 4 lines 1-22, page 5 lines 14-27, and page 14 line 21 - page 15 line 33).

Consider **claim 6**, and **as applied to claim 1 above**, Salmela et al. further disclose

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wherein

the mobile communication network (system) comprises localized (exclusive) service areas (LSAs) LSA1-LSA3 (figure 1, page 4 lines 1-12, and page 7 lines 26-28);

the special (exclusive) cells (C1-C3, C5, C11) being special (exclusive) access cells (i.e., only certain subscribers can connect (have access) to those cells) (page 4 lines 1-15, page 5 lines 18-27, page 8 lines 6-9, and page 14 line 14 - page 15 line 33); and

the fact whether or not the subscriber is allowed to connect (camp) in the cell is determined by comparing the localized (exclusive) service area (LSA) LSA1-LSA3 information to the subscriber's localized (exclusive) service area (LSAs) LSA1-LSA3 (page 4 lines 1-22, page 5 lines 14-27, and page 14 line 21 - page 15 line 33); and

the method further comprising the steps of:

defining localized (exclusive) service areas (LSAs) LSA1-LSA3 (figure 1) so that when an special (exclusive) access cell (e.g., C1) belongs to a localized (exclusive) service area (LSA) LSA1, the other cells (e.g., C2 and C3) in that localized (exclusive) service area (LSA) LSA1 are also special (exclusive) cells (figure 1, page 4 lines 1-22, page 5 lines 14-27, page 8 lines 25-30, page 12 line 20 - page 13 line 5, and page 14 line 26 - page 15 line 3);

maintaining information about localized (exclusive) service areas (LSAs) LSA1-LSA3 comprising special (exclusive) cells (C1-C3, C5, C11) (figure 1, page 4 lines 18-22, page 5 lines 19-27, page 8 lines 14-30, page 11 lines 20-35, page 12 line 20 - page 13 line 5, page 13 lines 18-26, page 14 lines 28-35, and page 15 lines 26-33); and

using that information for deciding whether the location area is a localized (exclusive)

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service area (LSAs) LSA1-LSA3 (page 5 lines 19-27, page 8 lines 14-30, page 11 lines 20-35, page 12 line 20 - page 13 line 5, page 13 lines 18-26, and page 14 line 22 - page 15 line 33).

Consider **claim 7**, and **as applied to claim 5 above**, Salmela et al. also disclose receiving the cell identifier (CI) (location area identity of the cell), the location area identifier/index (LAI) (local service area information of the cell), and the international mobile subscriber identity (IMSI) (subscriber's identification information) during the location update (page 8 lines 17-30 and page 12 line 28 - page 13 line 5).

Consider **claim 12**, Salmela et al. clearly show and disclose a mobile communication network (system) comprising:

special (exclusive) cells (C1-C3, C5, C11) and other cells via which a mobile station may be connected to the network (figure 1, page 4 lines 1-12, page 5 lines 14-18, and page 7 lines 26-28);

localized (exclusive) service areas (LSAs) LSA1-LSA3 defining groups of cells (figure 1, page 4 lines 1-12, page 5 lines 14-18, and page 7 lines 26-28); and

at least one mobile station which is arranged to, in response to a new location area (i.e., location area identifier/index (LAI)), to send a location update request including the identity of the new location area (LAI) and the international mobile subscriber identity (IMSI) (information about the subscriber using it) (figures 2-5 message 21, page 2 lines 9-17, page 2 line 35 - page 3 line 2, page 4 lines 23 and 24, page 4 line 31 - page 5 line 9, page 8 lines 13-30, page 9 lines 19-23, page 10 lines 25-29, page 11 lines 19-23, page 12 line 28 - page 13 line 5, and page 14 lines 21-25);

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wherein

at least one localized (exclusive) service areas (LSAs) LSA1-LSA3 comprising special (exclusive) cells (C1-C3, C5, C11) is defined (i.e., only certain subscribers can connect (have access) to those cells) (figure 1, page 4 lines 1-15, page 5 lines 14-27, page 7 lines 26-28, page 8 lines 6-9, and page 14 line 14 - page 15 line 33); and

the network is arranged to access information about localized (exclusive) service areas (LSAs) LSA1-LSA3 and, in response to a location update request of a mobile station, to check whether the location area (i.e., location area identifier/index (LAI)) in the location update is a localized (exclusive) service area (LSA) LSA1-LSA3 (page 5 lines 6-9, page 6 lines 12-19, page 8 lines 17-25, page 11 lines 23-26, page 12 lines 10-19, page 14 lines 26-31, and page 15 lines 14-24) and if it is (page 12 line 28 - page 13 line 5, page 14 lines 28-31, and page 15 lines 14-24) to check whether the subscriber is allowed to connect (camp) in the cell (page 14 lines 14-18, page 14 line 28 - page 15 line 3, and page 15 lines 14-24), and to reject the location update if the subscriber is not allowed to connect (camp) in the cell (page 13 lines 1-5, page 14 lines 14-18 and 21-35, and page 15 lines 1-34).

Consider **claim 14**, and **as applied to claim 12 above**, Salmela et al. further disclose that the network (system) comprises localized (exclusive) service areas (LSAs) LSA1-LSA3 defining local services for subscriber's via cells or a cell defined as belonging to a localized (exclusive) service area (LSA) LSA1-LSA3 (figure 1, page 4 lines 1-12, and page 7 lines 26-28), and the network is further arranged to received information (e.g., location area identifier/index (LAI)) on the local service area of the cell and to check whether the subscriber is allowed to connect

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(camp) in the cell by comparing the localized (exclusive) service area (LSA) LSA1-LSA3 information to the subscriber's localized (exclusive) service area (LSAs) LSA1-LSA3 (page 4 lines 1-22, page 5 lines 14-27, and page 14 line 21 - page 15 line 33).

Consider **claim 16**, Salmela et al. clearly shows and discloses a database (network element) in a mobile communications network (system) taking part in location update procedures between the system and a mobile station (figure 1 and page 4 lines 18-22), which network (system) comprises localized (exclusive) service area (LSA) LSA1-LSA3 (figure 1),
wherein

the database (network element) is arranged to store or to have access to information about localized (exclusive) service areas (LSAs) LSA1-LSA3 comprising special (exclusive) access cells (C1-C3, C5, C11) (i.e., only certain subscribers can connect (have access) to those cells) (page 4 lines 1-22, page 5 lines 18-27, page 8 lines 6-9, and page 14 line 14 - page 15 line 33) and, in response to a location update to a cell, to check whether the location area to which the location update is targeted is an localized (exclusive) service area (LSA) LSA1-LSA3 (page 5 lines 6-9, page 6 lines 12-19, page 8 lines 17-25, page 11 lines 23-26, page 12 lines 10-19, page 14 lines 26-31, and page 15 lines 14-24) and if it is, to check whether or the subscriber is allowed to connect (camp) in the cell (page 12 line 28 - page 13 line 5, page 14 lines 14-18, page 14 line 28 - page 15 line 3, and page 15 lines 14-24), and to reject the location update if the subscriber is not allowed to connect (camp) in the cell (page 13 lines 1-5, page 14 lines 14-18 and 21-35, and page 15 lines 1-34).

Consider **claim 17**, and as **applied to claim 16 above**, Salmela et al. further disclose that

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the network (system) also comprises localized (exclusive) service areas (LSAs) LSA1-LSA3 defining local services for subscribers via cells or a cell defined as belonging to a localized (exclusive) service area (LSA) LSA1-LSA3 (figure 1, page 4 lines 1-12, and page 7 lines 26-28), and the database (network element) is further arranged to received information (e.g., location area identifier/index (LAI)) on the local service area of the cell and to check whether the subscriber is allowed to connect (camp) in the cell by comparing the localized (exclusive) service area (LSA) LSA1-LSA3 information to the subscriber's localized (exclusive) service area (LSAs) LSA1-LSA3 (page 4 lines 1-22, page 5 lines 14-27, and page 14 line 21 - page 15 line 33).

Consider **claim 18**, and **as applied to claim 17 above**, Salmela et al. further disclose that the information about localized (exclusive) service areas (LSAs) LSA1-LSA3 comprise localized (exclusive) service areas (LSAs) LSA1-LSA3 having at least one cell in the area of the database (network element) (e.g., location areas in the vicinity of the HLR or VLR) (page 5 lines 19-27 and page 15 lines 14-25).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 8, 10, 11, 13, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Salmela et al. (WO 98/30056)** in view of **Nordstrand (U.S. Patent # 6,334,052 B1)**, and further in view of **well known prior art (MPEP 2144.03)**.

Consider **claim 8**, Salmela et al. clearly show and disclose the claimed invention as **applied to claim 5 above**, and, in addition, Salmela et al. further disclose the steps of:

broadcasting the cell identifier (CI) (location area identity of the cell) and the location area identifier/index (LAI) (local service area information) of the cell (page 2 lines 6-11, page 4

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line 26-28, and page 13 line 31 - page 14 line 5);

broadcasting an indication (e.g., a message) indicating that cell is a special (exclusive) access cell on a broadcast channel (BCCH) when the cell is an special (exclusive) access cell (page 1 lines 14-18, page 4 lines 26-30, page 6 lines 7-20, page 12 line 29 - page 13 line 5, and page 13 line 33 - page 14 line 5); and

when receiving the new cell identifier (CI) (location area identity) and said indication (e.g., a message) in the broadcast in the mobile station, comparing the location area identifier/index (LAI) (local service area information) of the cell with the subscriber's local service area information stored in the mobile station (page 1 lines 14-18, page 2 lines 6-11, page 4 lines 24-30, page 5 lines 10-18, page 6 lines 7-12, and page 13 line 33 - page 14 line 5).

However, Salmela et al. do not specifically disclose that
if there is a match, camping in the cell by sending a location update request, or
if there is no match, trying to find a suitable cell where to camp in and if a suitable cell is not found, entering a limited service state.

In the same field of endeavor, Nordstrand clearly discloses a method for deciding whether a mobile station is allowed to camp in a cell (idle mode cell selection) comprising, among other steps, the steps of:

comparing received cell-related information (local service area information of the cell) with a subscriber's predefined areas (local service area information) stored in the mobile station (abstract, column 4 lines 6-9 and 32-50, and column 6 lines 1-20 and 28-45); and

if there is a match, camping in the cell by sending a location update request (the location

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update request is not explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11 lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines 14-29 and 43-49, and column 8 lines 9-17); or

if there is no match, trying to find a suitable cell where to camp in (figure 4 and column 10 line 41 - column 11 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the technique for allowing camping in a cell taught by Nordstrand into the method taught by Salmela et al. in order to save radio and network resources (Nordstrand; column 7 lines 22-29 and column 8 lines 10-17).

However, Salmela et al., as modified by Nordstrand, do not specifically disclose that if a suitable cell is not found, entering a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art for a mobile station to enter a limited service state if a suitable cell for communications is not found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the method of Salmela et al., as modified by Nordstrand, in order to save battery power and/or processing resources.

Consider **claim 10**, Salmela et al. clearly show and disclose a method for restricting connection of a mobile station MS used by a subscriber (deciding whether to trigger a location update) (abstract, figure 1, page 1 lines 4-6, page 4 lines 9-12, and page 14 lines 22-25), the

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method comprising the steps of:

defining localized (exclusive) service areas (LSAs) LSA1-LSA3 (figure 1) so that all special (exclusive) cells (e.g., C1-C3) are in localized (exclusive) service area (LSA) comprising special (exclusive) cells (e.g., C1-C3) (figure 1, page 4 lines 1-22, page 5 lines 14-27, page 8 lines 25-30, page 12 line 20 - page 13 line 5, and page 14 line 26 - page 15 line 3);

broadcasting a cell identifier (CI) (location area identity of the cell) and location area identifier/index (LAI) (local service area information) (page 2 lines 6-11, page 4 line 26-28, and page 13 line 31 - page 14 line 5);

broadcasting an indication (e.g., a message) indicating that cell is a special (exclusive) cell when the cell belongs to a localized (exclusive) service area (LSA) comprising special (exclusive) cells (e.g., C1-C3) (page 1 lines 14-18, page 4 lines 26-30, page 6 lines 7-20, page 12 line 29 - page 13 line 5, and page 13 line 33 - page 14 line 5).

However, Salmela et al. do not specifically disclose the steps of:

determining whether the mobile station is allowed to camp in the cell in response to receiving a new cell identifier (CI) (location area identity) and said indication (e.g., a message) indicating an special (exclusive) cell in the broadcast; and

if camping is allowed, sending a location update request, or

if camping is not allowed, trying to find a suitable cell where to camp and if a suitable cell is not found, entering a limited service state.

In the same field of endeavor, Nordstrand clearly discloses a method for deciding whether a mobile station is allowed to camp in a cell (trigger a location update) comprising,

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among other steps, the steps of:

determining whether a mobile station is allowed to camp in a cell in response to receiving cell-related information (location area identity) and an indication (e.g., a message) indicating an exclusive cell in the broadcast (abstract, figures 4 and 5, column 4 lines 6-12 and 32-50, column 5 lines 1-20 and 47-59, and column 6 lines 1-20 and 28-45); and

if camping is allowed, sending a location update request (the location update request is not explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11 lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines 14-29 and 43-49, and column 8 lines 9-17); or

if camping is not allowed, trying to find a suitable cell where to camp in (figure 4 and column 10 line 41 - column 11 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the technique for allowing camping in a cell taught by Nordstrand into the method taught by Salmela et al. in order to save radio and network resources (Nordstrand; column 7 lines 22-29 and column 8 lines 10-17).

However, Salmela et al., as modified by Nordstrand, do not specifically disclose that if a suitable cell is not found, entering a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art for a mobile station to enter a limited service state if a suitable cell for communications is not found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

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the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the method of Salmela et al., as modified by Nordstrand, in order to save battery power and/or processing resources.

Consider **claim 11**, Salmela et al., as modified by Nordstrand, clearly show and disclose the claimed invention as **applied to claim 10 above**, and, in addition, Salmela et al. further disclose that:

the mobile communication network (system) comprises localized (exclusive) service areas (LSAs) LSA1-LSA3 (figure 1, page 4 lines 1-12, and page 7 lines 26-28);

the special (exclusive) cells (C1-C3, C5, C11) being special (exclusive) access cells (i.e., only certain subscribers can connect (have access) to those cells) (page 4 lines 1-15, page 5 lines 18-27, page 8 lines 6-9, and page 14 line 14 - page 15 line 33); and

the method further comprising the steps of:

broadcasting a cell identifier (CI) (location area identity of the cell) and the location area identifier/index (LAI) (local service area information) of the cell (page 2 lines 6-11, page 4 line 26-28, and page 13 line 31 - page 14 line 5);

comparing the broadcast location area identifier/index (LAI) (local service area information) of the cell with the subscriber's local service area information stored in the mobile station in response to receiving a new cell identifier (CI) (location area identity) and said indication (e.g., a message) indicating a special (exclusive) access cell in the broadcast (page 1 lines 14-18, page 2 lines 6-11, page 4 lines 24-30, page 5 lines 10-18, page 6 lines 7-12, and page 13 line 33 - page 14 line 5).

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However, Salmela et al. do not specifically disclose that
if there is a match, sending a location update request, or
if there is no match, trying to find a suitable cell where to camp and if a suitable cell is
not found, entering a limited service state.

In the same field of endeavor, Nordstrand clearly discloses a method for deciding
whether a mobile station is allowed to camp in a cell (trigger a location update) comprising,
among other steps, the steps of:

comparing received cell-related information (broadcast local service area information of
the cell) with a subscriber's predefined areas (local service area information) stored in the mobile
station in response to receiving cell-related information (location area identity) and an indication
(e.g., a message) indicating an exclusive access cell in the broadcast (abstract, figures 4 and 5,
column 4 lines 6-12 and 32-50, column 5 lines 1-20 and 47-59, and column 6 lines 1-20 and 28-
45); and

if there is a match, sending a location update request (the location update request is not
explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11
lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines
14-29 and 43-49, and column 8 lines 9-17); or

if there is no match, trying to find a suitable cell where to camp in (figure 4 and column
10 line 41 - column 11 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time
the invention was made to incorporate the technique for allowing camping in a cell taught by

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Nordstrand into the method taught by Salmela et al. in order to save radio and network resources (Nordstrand; column 7 lines 22-29 and column 8 lines 10-17).

However, Salmela et al., as modified by Nordstrand, do not specifically disclose that if a suitable cell is not found, entering a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art for a mobile station to enter a limited service state if a suitable cell for communications is not found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the method of Salmela et al., as modified by Nordstrand, in order to save battery power and/or processing resources.

Consider **claim 13**, Salmela et al. clearly show and disclose the claimed invention as **applied to claim 12 above**, and, in addition, Salmela et al. further disclose that:

the network is arranged to broadcast a cell identifier (CI) (location area identity of the cell) and an indication (e.g., a message) that cell is a special (exclusive) cell when the cell belongs to a localized (exclusive) service area (LSA) (page 1 lines 14-18, page 2 lines 6-11, page 4 lines 26-30, page 6 lines 7-20, page 12 line 29 - page 13 line 5, and page 13 line 31 - page 14 line 5).

However, Salmela et al. do not specifically disclose that:

the mobile station is arranged, in response to receiving a new cell identifier (CI) (location area identity) and said indication (e.g., a message), to determine whether the mobile station is

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allowed to camp, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell where to camp and if a suitable cell is not found, entering a limited service state.

In the same field of endeavor, Nordstrand clearly discloses a mobile communications network comprising:

a mobile station, said mobile station is arranged, in response to receiving cell-related information (location area identity) and an indication (e.g., a message) indicating an exclusive cell, to determine whether the mobile station is allowed to camp in the cell (abstract, figures 4 and 5, column 4 lines 6-12 and 32-50, column 5 lines 1-20 and 47-59, and column 6 lines 1-20 and 28-45); and if it is allowed, to send a location update request to the network (the location update request is not explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11 lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines 14-29 and 43-49, and column 8 lines 9-17); or if it is not allowed, to try to find a suitable cell where to camp (figure 4 and column 10 line 41 - column 11 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the technique, in a mobile station, for allowing camping in a cell taught by Nordstrand into the network taught by Salmela et al. in order to save radio and network resources (Nordstrand; column 7 lines 22-29 and column 8 lines 10-17).

However, Salmela et al., as modified by Nordstrand, do not specifically disclose that if a suitable cell is not found, to enter a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the

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art for a mobile station to enter a limited service state if a suitable cell for communications is not found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the method of Salmela et al., as modified by Nordstrand, in order to save battery power and/or processing resources.

Consider **claim 15**, Salmela et al. clearly show and disclose the claimed invention as **applied to claim 14 above**, and, in addition, Salmela et al. further disclose that:

the network is arranged to broadcast the cell identifier (CI) (location area identity of the cell), the location area identifier/index (LAI) (local service area information) of the cell (page 2 lines 6-11, page 4 line 26-28, and page 13 line 31 - page 14 line 5), and an indication (e.g., a message) indicating that cell is a special (exclusive) access cell on when the cell is an special (exclusive) access cell (page 1 lines 14-18, page 4 lines 26-30, page 6 lines 7-20, page 12 line 29 - page 13 line 5, and page 13 line 33 - page 14 line 5); and

the mobile station is arranged, in response to receiving the new cell identifier (CI) (location area identity) and said indication (e.g., a message), to compare the location area identifier/index (LAI) (broadcast local service area information) of the cell with the subscriber's local service area information stored in the mobile station (page 1 lines 14-18, page 2 lines 6-11, page 4 lines 24-30, page 5 lines 10-18, page 6 lines 7-12, and page 13 line 33 - page 14 line 5).

However, Salmela et al. do not specifically disclose that

if there is a match, to send a location update request to the network, or

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if there is no match, to try to find a suitable cell where to camp and if a suitable cell is not found, entering a limited service state.

In the same field of endeavor, Nordstrand clearly discloses a mobile communications network comprising:

a mobile station arranged, to compare received cell-related information (local service area information of the cell) with a subscriber's predefined areas (local service area information) stored in the mobile station (abstract, column 4 lines 6-9 and 32-50, and column 6 lines 1-20 and 28-45), and if there is a match, to send a location update request to the network (the location update request is not explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11 lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines 14-29 and 43-49, and column 8 lines 9-17); or

if there is no match, to try to find a suitable cell where to camp (figure 4 and column 10 line 41 - column 11 line 6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the technique for allowing camping in a cell taught by Nordstrand into the network taught by Salmela et al. in order to save radio and network resources (Nordstrand; column 7 lines 22-29 and column 8 lines 10-17).

However, Salmela et al., as modified by Nordstrand, do not specifically disclose that if a suitable cell is not found, to enter a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art for a mobile station to enter a limited service state if a suitable cell for communications is not

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found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the method of Salmela et al., as modified by Nordstrand, in order to save battery power and/or processing resources.

9. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Salmela et al. (WO 98/30056)** in view of **well known prior art (MPEP 2144.03)**.

Consider **claim 9**, and **as applied to claim 1 above**, Salmela et al. clearly shows and discloses the claimed invention except rejecting the location update with the cause “roaming not allowed in this location area”.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art to reject a location update with the cause of “roaming not allowed” for purposes of, for example, identifying the reason for the rejection in the system.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to reject the location update with the cause of “roaming not allowed in this location area”, as well known in the art, in the method of Salmela et al. in order to, for example, identifying the reason for the rejection in the system.

10. **Claims 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nordstrand (U.S. Patent # 6,334,052 B1)** in view of **well known prior art (MPEP 2144.03)**.

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Consider **claim 19**, Nordstrand clearly shows and discloses a mobile station which supports cell services definitions (e.g., areas with different tariff classes) in a mobile communications system comprising location areas (figure 1), and is arranged to receive broadcast information about a location area of the cell (i.e., cell-related information) (abstract, figures 1 and 2, column 4 lines 6-9, 18-21, 43-54, and column 5 lines 6-16 and 27-46), wherein

the mobile station is arranged to determined whether or not the subscriber is allowed to camp in the cell in response to receiving in the broadcast a new location area (i.e., new cell identifier) and an indication indicating that the cell belongs to a location area consisting of exclusive cells (abstract, column 4 line 39 - column 5 line 20, column 5 lines 27-59, and column 10 lines 4-18), and if it is allowed, to send a location update request to the system (the location update request is not explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11 lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines 14-29 and 43-49, and column 8 lines 9-17), or if is not allowed, to try to find a suitable cell where to camp (figure 4 and column 10 line 41 - column 11 line 6).

However Nordstrand does not specifically disclose that if a suitable cell is not found, to enter a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art for a mobile station to enter a limited service state if a suitable cell for communications is not found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

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the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the mobile station taught by Nordstrand, in order to save battery power and/or processing resources.

Consider **claim 20**, Nordstrand, as modified above, clearly discloses the claimed invention **as applied to claim 19 above**, and, in addition, Nordstrand further discloses in a mobile communications system comprising local services areas supporting local service areas definitions (e.g., different tariff classes depending on the area (column 4 lines 18-21) or microcells 101-103 serving employees of a particular company (figure 1 and column 8 lines 36-39)),

wherein

the cell service definitions supported by the mobile station comprises local service areas definitions (e.g., areas with different tariff classes) (abstract, column 4 lines 6-14, 18-21, and 61-67, column 5 lines 47-59, and column 7 lines 30-37); and

the mobile station is arranged to receive broadcast information about local service areas of a cell (i.e., cell-related information) (abstract, column 4 lines 43-67, and column 5 lines 34-59) and to perform the determining by comparing the local service area information for the cell (i.e., cell-related information) with subscriber's local service area information in response in response to receiving in the broadcast a new location area (i.e., new cell identifier) and an indication indicating that the cell belongs to a location area consisting of exclusive access cells (abstract, column 4 line 39 - column 5 line 20, column 5 lines 27-59, and column 10 lines 4-18), and if it there is a match, to send a location update request to the system (the location update request is

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not explicitly mentioned but it is inherent from the conventional techniques mentioned on column 11 lines 4-6; also see abstract, column 4 lines 39-50, column 5 lines 1-20 and 28-59, column 7 lines 14-29 and 43-49, and column 8 lines 9-17), or if there is no match, to try to find a suitable cell where to camp (figure 4 and column 10 line 41 - column 11 line 6).

However Nordstrand does not specifically disclose that if a suitable cell is not found, to enter a limited service state.

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art for a mobile station to enter a limited service state if a suitable cell for communications is not found for purposes of, for example, saving battery power and/or processing resources.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate the step of entering a limited service state if a suitable cell is not found, as well known in the art, into the mobile station taught by Nordstrand, in order to save battery power and/or processing resources.

Conclusion

11. Any response to this Office Action should be **faxed to (703) 872-9306 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

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Crystal Park II
2021 Crystal Drive
Arlington, VA 22202
Sixth Floor (Receptionist)

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rafael Perez-Gutierrez whose telephone number is (703) 308-8996. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700 or call customer service at (703) 306-0377.



Rafael Perez-Gutierrez

R.P.G./rpg **RAFAEL PEREZ-GUTIERREZ**
PATENT EXAMINER

March 27, 2004